creased leukocyte count. The diagnosis is confirmed by identifying the motile forms on a fresh saline slide. The protozoans are readily recognized by their random motion and beating flagella.

Treatment consists of 2 grams of metronidazole taken orally in a single dose for the patient and partner. Treatment fails most commonly when there is reinfection. Reviewing condom usage and the patient's sexual contacts and retreating with metronidazole usually resolve the infection. True antibiotic resistance is rare, but in cases of partial resistance, treating a patient with metronidazole, 500 mg twice a day for seven days, is successful.

Noninfectious Vaginitis

Noninfectious causes of vulvovaginitis include reactions to a variety of chemicals: medicated douches, iatrogenic agents, spermicides and sponges, feminine deodorants, and harsh soaps. Foreign bodies are a notorious cause in children, but in menstruating women a forgotten tampon is not uncommon. Discontinuing the irritating chemical or removing the foreign body results in a clearing of symptoms.

Atrophic vaginitis affects postmenopausal women and is caused by thinning and weakening of the vulvar and vaginal tissues, a rise in pH accompanying a loss of the glycogen content, and a subsequent bacterial overgrowth. Treatment consists of applying estrogen cream, 2 to 4 grams daily—equivalent to a half to a full applicatorful—for one to three weeks. As soon as symptoms subside, treatment should be tapered to once or twice a week at minimal dosages because significant systemic absorption may occur and lead to endometrial stimulation. If local, vaginal treatment is inadequate, systemic estrogen replacement therapy may need to be considered.

Upper Genital Tract

When vaginal discharge persists and vaginitis has been excluded, an upper tract source should be considered. Uterine problems include endometritis, irritation caused by an intrauterine device, polyps, and malignancy. In cases of suspected cervicitis, cultures for *Chlamydia,* gonorrhea, and herpes simplex virus should be done. The Pap test, colposcopy, and cervical biopsy are invaluable techniques for identifying cervical condylomata, cervical dysplasia, and cervicitis.

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An Effective Clinical Approach to Vaginismus—Putting the Patient in Charge

VAGINISMUS is an involuntary spasm of the introital muscles in anticipation of vaginal penetration. Classically, its severest form makes penetration virtually impossible and causes a severe, burning pain. But there are less pronounced degrees of vaginismus, characterized by a "stiffening" of the vaginal musculature, allowing penetration, yet accompanied by the same sort of pain. The condition may be primary (present from the first attempt at penetration) or secondary (following physical or psychological trauma, infection, menopausal changes, or pelvic pathology).

Although the incidences of primary and severe vaginismus (prohibiting penetration) are relatively low, secondary vaginismus and introital "guarding" are seen reasonably frequently in clinical practice. Modern treatment methods approach 100% success, given the outcome criteria described by Kaplan. The technique detailed herein is a useful refinement.

The diagnosis of vaginismus can only be verified by physical examination and after other causes of local pain or atrophy have been treated or ruled out. These include the obvious and subtle causes of superficial dyspareunia, such as anatomic abnormalities, infections, mucosal tears, hypersensitive scars, atrophic vaginitis, inadequate lubrication, painful hymeneal tags, urethral caruncle, topical allergies, focal vulvitis, postherpetic neuralgia, and hypersensitivity to a partner's semen.

On physical examination, the patient is tense, the buttocks tight, the thighs adducted, and the perineum taut and contracted. The treatment is based on several prerequisites:

- The cause of the condition—determined by history—must be explained to the patient, as must its mechanics.
- The patient must be motivated to enjoy coitus or desire to effect painless vaginal insertion for other reasons—self-acceptance, the use of tampons, comfort during medical examinations.
- The patient must learn that she can be in control of her vagina at all times during treatment.
- The patient—and her partner—must be willing to patiently undergo a progressive process of systematic desensitization and counseling.

Treatment begins with the pelvic examination. The patient is assured that she is in control: When she says, "Stop," the examiner always stops. It may take several sessions to demonstrate painless vaginal insertion. The wait is worth it in the long run. The patient is taught the Kegel exercises, with special attention to bearing down and pulling in. When she can do this easily, the examiner (with the patient's permission) gently places the tip of the index finger at the introitus, asking the patient to bear down or "push the finger away." Repeating this exercise several to many times, with rest periods, should eventually result in the fingertip being "captured" by the vagina (as opposed to the vagina being "penetrated")—an active, rather than passive process. The patient comes to realize that she can be in active control of what enters her vagina and is usually astonished to discover that it is painless. Patience, gentleness, and time will permit the length of a finger to be "captured" in this way. The same procedure is repeated by the patient herself and, if possible, by her partner. Graduated vaginal dilators are substituted for the finger at home and are left in place for 15 to 60 minutes at

a time. Trust is developed as the patient teaches her partner how to cooperate. Finally, the exercises are incorporated into sexual situations, and the penis is substituted, under the patient's control, only when she is reasonably aroused. In the short run, the patient is always in control.

Clinicians should warn such patients to anticipate setbacks during the treatment process—in fact, should program them into the treatment. They should be aware that overcoming vaginismus may uncover other sexual dysfunction(s) that can be addressed subsequently without the barrier of dyspareunia.

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Contraception—Problems and Prospects

Assessing the present and future of fertility regulation in 1985, Diczfalusy observed that

> the most important problem with presently available fertility regulating methods is simply that people are not using them. . . . Out of approximately 600 million couples in the reproductive age [in developing countries], some 500 million are not using adequate methods of fertility regulation.

Needless to say, this problem weighs most heavily on women and has not been corrected in the three intervening years. It is not a problem unique to developing countries. The first federally funded family planning clinic in the United States was established 23 years ago in Corpus Christi, Texas. At that time, 5.3 million women in this country were estimated to be at or below the poverty level and in need of subsidized family planning services. Today 5 million women receive services annually; another 3.6 million, also in need, are not served.

The toll of unmet needs and of methods not used is starkly evident among very young women. Women 15 to 19 years old account for nearly a third of all unintended pregnancies in the US; three quarters of these pregnancies can be attributed to not using contraception. Less than half of all sexually active teen couples use any method at all. Nonuse is also a serious problem among older women. Overall, 21% of US women who are at risk for unintended pregnancy are unprotected. If nonusers adopted currently available methods in the same pattern as their contraceptive-using peers, unintended pregnancies in the United States would decline by 57%.

High unintended pregnancy rates and high abortion rates are not inevitable. Other nations such as England, France, and the Netherlands do not share our problem despite similar patterns of sexual exposure among young people. These nations have managed to make effective education for young people and accessible services a reality. In the US, however, there are many obstacles to be overcome. Science may help, with more effective and more appealing contraceptive methods, but social, political, and economic dilemmas confound our efforts. It is a national disgrace that funding for family planning services is inadequate and that we do not have a forward-looking national policy and leadership. We have not even managed to use our most powerful educational tools such as television. These same dilemmas also impede contraceptive research and development and jeopardize future options for our children and grandchildren.

Increased federal support for research is needed. Worldwide, public and private funding for contraceptive research has declined in real dollars since its peak in 1972. Private sector research in this field has declined dramatically. Fifteen years ago, eight US pharmaceutical companies were involved in contraceptive research; today only one remains active. Nonprofit contraceptive research programs in this country estimate that an increase in their annual expenditures from the current level of $30 million to $53 million could be used productively and would make a significant difference in the pace of contraceptive development.

Economic, social, and political problems also have other less obvious but significant consequences. Decisions by manufacturers to withdraw the Saf-T-Coil, Lippes loop, Copper T and Copper 7 intrauterine devices were based on economic considerations, weighing profit and potential product liability; spermicide manufacturers, too, are confronting product liability issues.

Morning-after hormonal treatment is another interesting example. The treatment is simple: two tablets of Ovral—ethinyl estradiol, 50 μg, and norgestrel, 0.5 mg—taken within 12 to 72 hours after unprotected intercourse, followed by two additional tablets 12 hours later. The efficacy is excellent: a failure rate of less than 2% can be expected when this method is used after an isolated instance of unprotected intercourse. But despite the ready availability of the drug, morning-after treatment is rarely prescribed. It has no champion to market and distribute it. Potential profit for the manufacturer probably would not justify the cost of obtaining approval from the Food and Drug Administration (FDA) for a new indication for the drug. In addition, product liability and the possible social costs of marketing a postfertilization method are involved. So the manufacturer has never sought FDA approval, and the FDA has no other mechanism for approving drug indications. Without FDA approval, even family planning specialists who know about it have had difficulty making morning-after treatment available; policy makers for public clinics regard FDA sanction as an important safeguard. Meanwhile, condoms break, partners return unexpectedly, diaphragm equipment is forgotten in packing for a weekend trip, and women are raped. Effective postcoital contraception is needed. Education, accessible services, and a tiny expenditure for drugs are all that would be required. Although orphan-drug provisions may make FDA approval possible for a low-profit product, no good mechanism exists in this country to assure its availability, no matter how desirable.

The cervical cap, approved in 1988 by the FDA, will face similar problems as a low-profit product, and the economics of profit and product liability are likely to be as important as science in determining the destiny of future possibilities such as contraceptive vaccine.

Current options are also limited by political and social considerations. Long-acting injectable progestins, widely used in other countries, are not available in the United States, and, for want of a company with the political courage to distribute it, the once-a-month antiprogestin, RU486, already in use in France, is unlikely to become an option here. A vocal antiabortion minority extends its concerns to include